

Klein Broadcast Engineering  
Paradise Valley, Arizona  
EXHIBIT E-5 page one:  
FM Spacing study

Page  
February 21, 1992

Title: MOONBEAM, INC. / CALISTOGA, CA.  
Channel 265A (100.9 MHz)  
Database: FCC 12/24/91

Latitude: 38-40-10  
Longitude: 122-37-52  
Safety zone: 30 km

Call	Auth	Licensee name	Chan	ERP-kW	Latitude	Br-to	Dist.	Req.
City of License	St	FCC File no.	Freq	EAH-m	Longitude	-from	(km)	(km)
KCJH	LIC	Western Apostolic Bible	*211B	26DA	37-57-10	123.8	142.0	15
Stockton	CA		90.1	55	121-17-11	304.6	127.0	CLEAR
KDVS	LIC	University of California	*212B1	5	38-32-30	100.3	77.69	12
Davis	CA		90.3	46	121-45-15	280.8	65.69	CLEAR
KBAY	LIC	United Broadcasting Comp	262B	14.5	37-06-40	158.0	186.3	69
San Jose	CA	BMLH-800820AG	100.3	786	121-50-34	338.5	117.3	CLEAR
GRANDFATHERED AT 14.5KW @ 786M HAAT.; DOC-20611								
ALLOD			263B1		38-46-00	278.2	78.78	48
lualala	CA	DOC-90-467	100.5		123-31-42	97.6	30.78	CLEAR
Effective 08-06-91; Filing window 08/06-09/05/91 **CLOSED**								
KTID-FM APC	Marin Broadcasting Compa	264A	.45		37-59-25	171.3	76.26	72
San Rafael	CA BMPH-911002IE	100.7	247		122-29-58	351.4	4.262	CLOSE
From channel 265A per D89-86								
ALLOD			264A		37-59-25	171.3	76.26	72
San Rafael	CA DOC-89-86	100.7			122-29-58	351.4	4.262	CLOSE

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City of License	St FCC File no.	Freq	EAH-m	Longitude	-from	(km)	(km)
KTID-FM LIC	Marin Broadcasting Compa	265A	2.20	37-58-49	173.2	77.03	115
San Rafael	CA BLD-7305	100.9	110	122-31-30	752.2	-30.0	0.0000

Klein Broadcast Engineering  
Paradise Valley, Arizona  
EXHIBIT E-6

Page 1  
February 21, 1992

Terrain Averages from NGDC 30-second Topographic database

Job Title: MOONBEAM, INC. / CALISTOGA, CA.  
Center of Radiation 1318.0 m ( 4324.1 ft) A.M.S.L.

Latitude: 38-40-10  
Longitude: 122-37-52

Bearing (Degrees true)	3.0 to 16.0 kilometer average terrain elevation		Height above average terrain	
	(meters)	(feet)	(meters)	(feet)
.0	463.4	1520.3	854.6	2803.8
45.0	423.7	1390.1	894.3	2934.1
90.0	477.7	1567.3	840.3	2756.9
135.0	362.6	1189.6	955.4	3134.5
* 157.0	278.3	913.1	1039.7	3411.1
180.0	329.5	1081.0	988.5	3243.1
225.0	203.1	666.3	1114.9	3657.8
270.0	276.1	905.8	1041.9	3418.3
315.0	826.5	2711.6	491.5	1612.5
Average:	420.3	1378.9	897.7	2945.2

Klein Broadcast Engineering  
Paradise Valley, Arizona  
EXHIBIT E-7

Page 1  
February 21, 1992

Service contours based on FCC F(50,50) curves

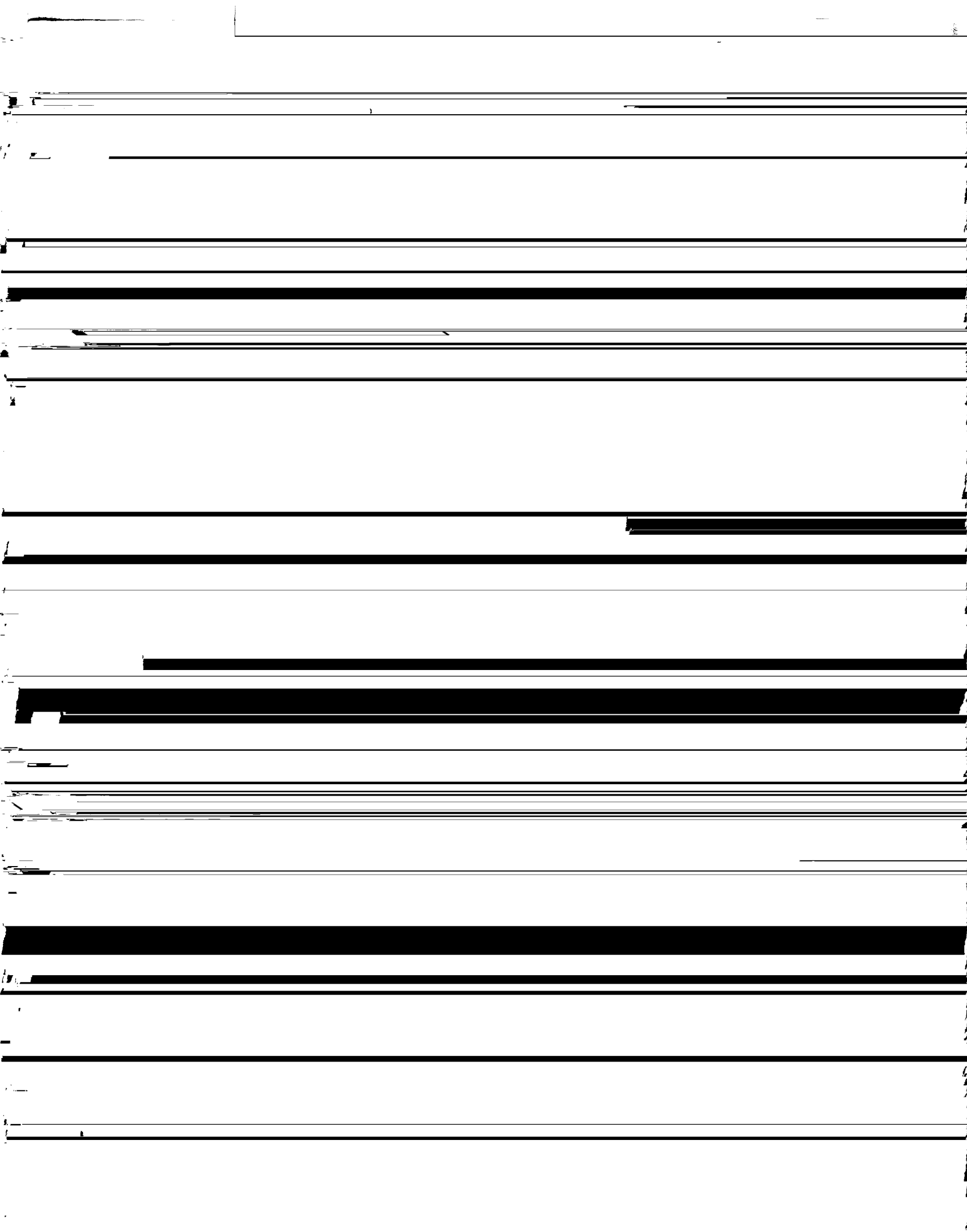
Title: MOONBEAM, INC. / CALISTOGA, CA.

Latitude: 38-40-10

Channel: 265 C/R 1318.0 meters ( 4324.1 feet) A.M.S.L. Longitude: 122-37-52

Bearing (degrees)	HAAT (meters) (feet)	ERP (kilowatts) (dBk)	70 dBu (3.16 mV/m) contour	60 dBu ( 1 mV/m) contour	54 dBu ( .50 mV/m) contour
.0	854.6 2803.8	.064 -11.9	13.5 km 8.4 mi	27.6 km 17.1 mi	39.6 km 24.6 mi
45.0	894.3 2934.1	.064 -11.9	13.7 km 8.5 mi	28.2 km 17.5 mi	40.5 km 25.2 mi
90.0	840.3 2756.9	.064 -11.9	13.5 km 8.4 mi	27.3 km 17.0 mi	39.2 km 24.4 mi
135.0	955.4 3134.5	.064 -11.9	14.0 km 8.7 mi	29.1 km 18.1 mi	41.8 km 26.0 mi
* 157.0	1039.7 3411.1	.064 -11.9	14.3 km 8.9 mi	30.4 km 18.9 mi	43.4 km 27.0 mi
180.0	988.5 3243.1	.064 -11.9	14.1 km 8.8 mi	29.6 km 18.4 mi	42.4 km 26.4 mi
225.0	1114.9 3657.8	.064 -11.9	14.7 km 9.1 mi	31.6 km 19.7 mi	44.7 km 27.8 mi
270.0	1041.9 3418.3	.064 -11.9	14.4 km 8.9 mi	30.5 km 18.9 mi	43.4 km 27.0 mi
315.0	491.5 1612.5	.064 -11.9	11.0 km 6.8 mi	20.6 km 12.8 mi	28.8 km 17.9 mi
-----					
HAAT: 897.7					
2945.1					

Note: Radial(s) denoted by "\*" not included in HAAT calculation.



# **KLEIN BROADCAST ENGINEERING**

*dedicated to improving the science and technology of radio & television communications*

ENGINEERING EXHIBIT E-10-RHS cont'd page two: MOONBEAM, INC.

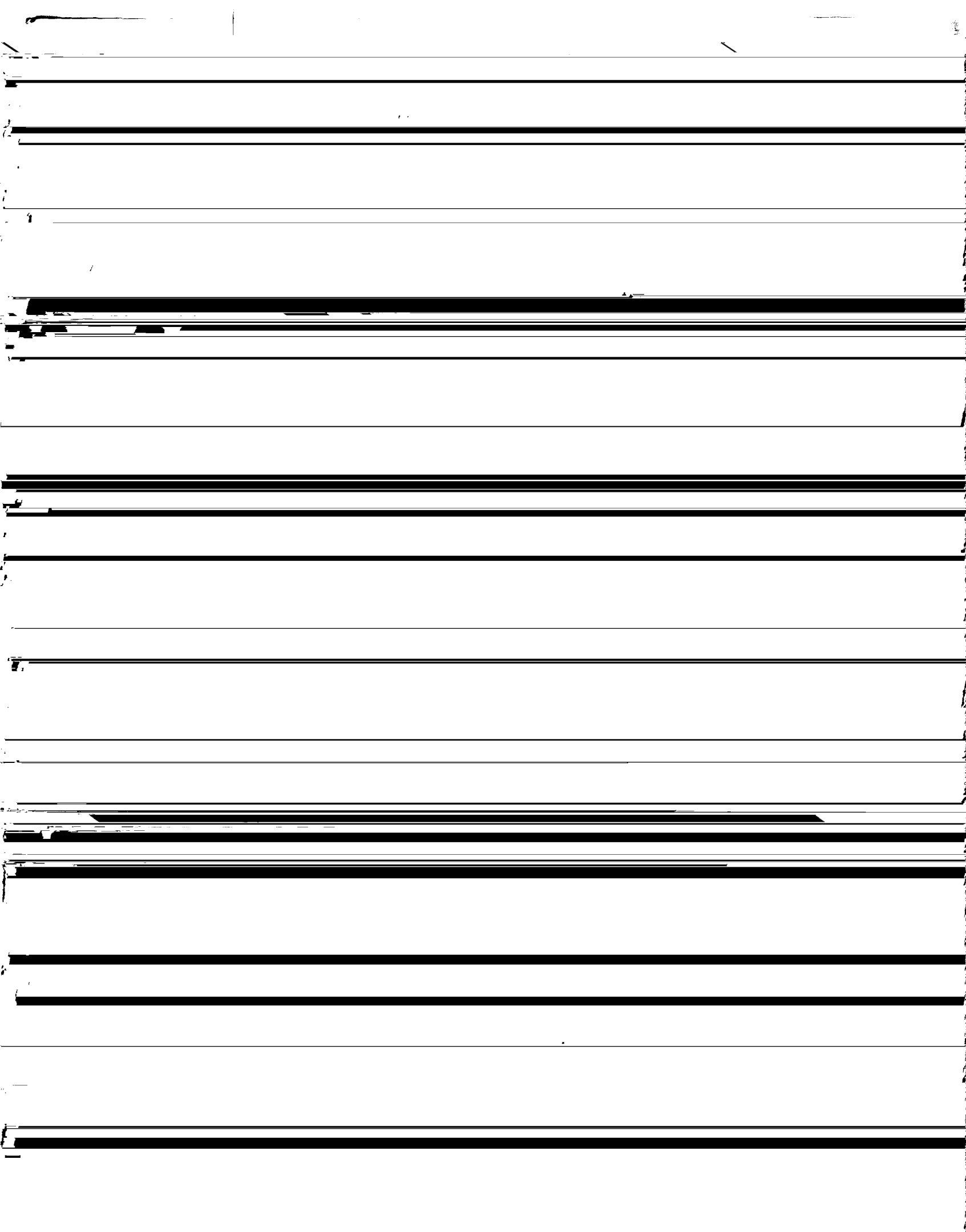
In addition to the above the applicant has by computer program performed the required calculations to predict power density at the base of the antenna support structure for the facilities proposed in this FCC Form 301 application. The computer program predicts a maximum power density for the proposed facilities of 0.0095 mW/cm<sup>2</sup> at a distance of 10.0 meters from the base of the antenna support structure. This level is well within the maximum allowable RFR power density level listed in the ANSI/EPA guidelines of 1.00 mW/cm<sup>2</sup>.

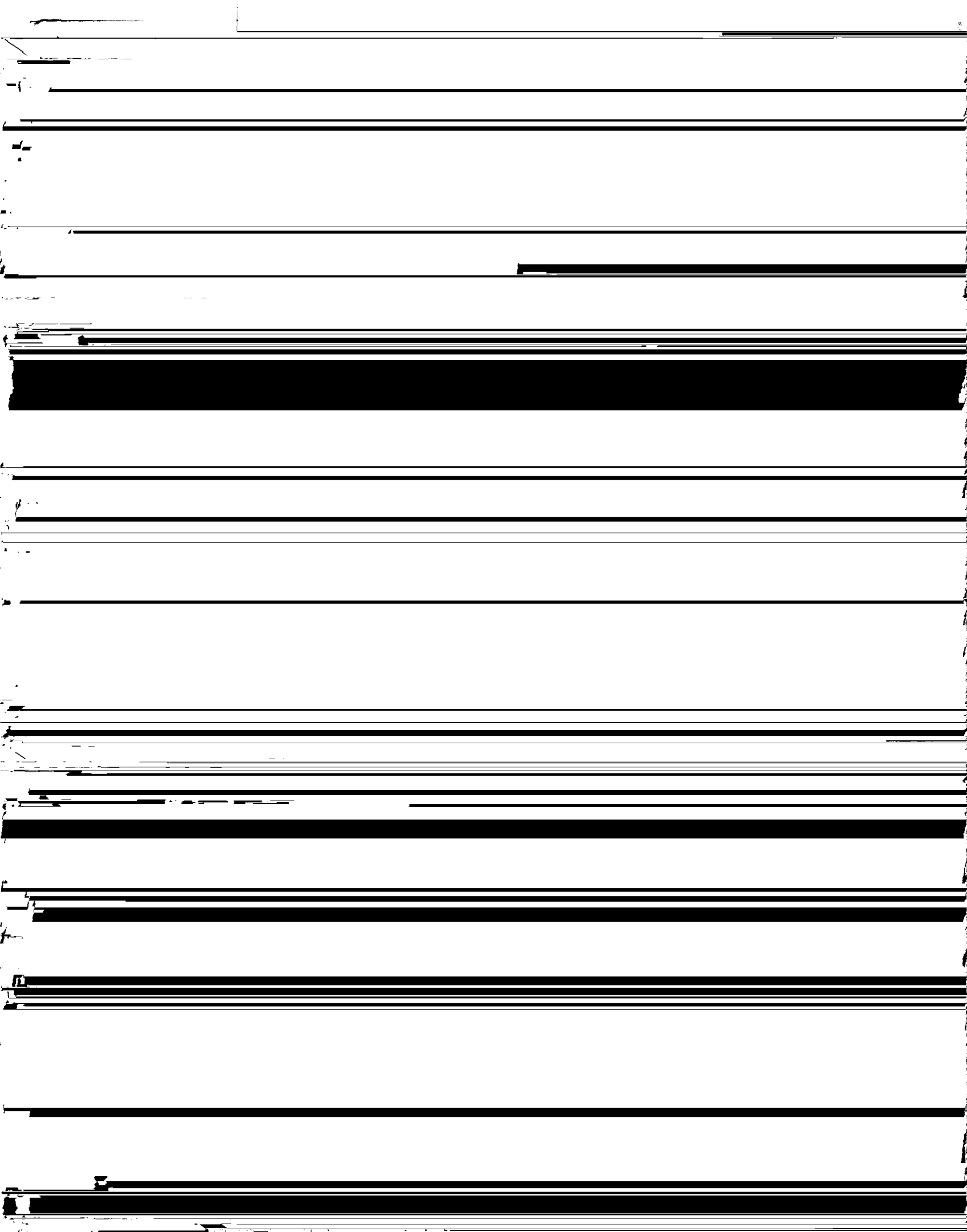
The applicant mentioned in Engineering Exhibit E-2 that several other FM broadcast and TV broadcast stations were licensed or had construction permits or applications on file with the Commission for the same or in close proximity to the proposed site. The applicant has studied the facilities as proposed or existing within 1000 meters of the site specified in this application. Using standard facilities for the power level of as listed in the construction permits, applications or actual operating licenses with radiation centers specified the applicant has calculated the contribution of each facility to the RFR power density on the site as well as the maximum RFR power density predicted taking all FM and TV facilities into consideration.

Arithmetic sum and analysis of the computer predicted RFR power density level studies, yields the following RFR power density level of 59% of the calculated limit for the total WORST case RFR power density on the site proposed in this application. A listing of all facilities studied and considered are listed elsewhere in this exhibit.

As proposed the applicant plans to locate its new FM facilities on an existing tower, at the location specified elsewhere in this application. The applicant has therefore studied all sources of RFR radiation on the proposed site and the total RFR power density by calculation is well in compliance with the FCC O.S.T. Bulletin #65 and the ANSI/EPA RFR Guidelines. RFR maximum power density on the site is predicted at only 59.0% of the allowable maximum as specified in the ANSI/EPA and FCC O.S.T. Bulletin Number 65 RFR Guidelines.

There are no other FCC licensed services near, or on the site that would contribute any significant RFR levels to the site or to the RFR analysis of the site or facilities proposed by this application.







ELECTRONICS RESEARCH, INC.

THEORETICAL

MAY 18 1966

DO NOT REMOVE CARBONS

Form Approved OMB No. 2120-0001

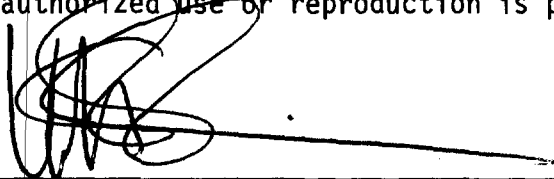
<b>NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION</b> <b>NOTIFICATION PURPOSES ONLY</b>			Aeronautical Study Number	
<b>1. Nature of Proposal</b> <span style="float: right;"><b>NO NEW TOWER CONSTRUCTION PROPOSED</b></span>				
<b>A. Type</b> <input type="checkbox"/> New Construction <input type="checkbox"/> Alteration	<b>B. Class</b> <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary (Duration _____ months)	<b>C. Work Schedule Dates</b> Beginning _____ End _____	<b>2. Complete Description of Structure</b> A. Include effective radiated power and assigned frequency of all existing, proposed or modified AM, FM, or TV broadcast stations utilizing this structure. B. Include size and configuration of power transmission lines and their supporting towers in the vicinity of FAA facilities and public airports. C. Include information showing site orientation, dimensions, and construction materials of the proposed structure. Proposed operation on FM Channel 265A / 100.9 MHz. with 0.064 kW horizontal and vertical polarization. Radiation center of proposed one FM antenna 40 feet AGL. to be side mounted on existing tower structure of Television Station KFTY-TV, overall height of existing tower 171.9 feet AGL. No new tower construction is proposed. No modification to existing tower structure is proposed. <i>(If more space is required, continue on a separate sheet.)</i>	
<b>3A. Name and address of individual, company, corporation, etc. proposing the construction or alteration.</b> <i>(Number, Street, City, State and Zip Code)</i> (415) 662-2226 <small>area code Telephone Number</small>  TO Ms. Mary Constant Moonbeam, Inc. One Marinship / Yacht Harbor Sausalito, CA. 94965				
<b>3B. Name, address and telephone number of proponent's representative if different than 3A above.</b> Elliott Kurt Klein, Conslt. B'cast. Engr. Klein Broadcast Engineering 5529 East Sapphire Lane Paradise Valley, AZ. 85253 (602) 991-0575				
<b>4. Location of Structure</b>			<b>5. Height and Elevation</b> <i>(Complete to the nearest foot)</i>	
<b>A. Coordinates</b> <i>(To nearest second)</i> 38° 40' 10" N 122° 37' 52" W	<b>B. Nearest City, Town and State</b> Calistoga, CA. (1) Distance to 4B 7.08 Miles (2) Direction to 4B 157.10°T.	<b>C. Name of nearest airport, heliport, flightpark, or seaplane base</b> 7-M Ranch Pvt. (1) Distance from structure to nearest point of nearest runway 4.76 miles (2) Direction from structure to airport 46.80°T.	<b>A. Elevation of site above mean sea level</b> 4285'	<b>B. Height of Structure including all appurtenances and lighting (if any) above ground, or water if so situated</b> 171.9'
<b>D. Description of location of site with respect to highways, streets, airports, prominent terrain features, existing structures, etc. Attach a U.S. Geological Survey quadrangle map or equivalent showing the relationship of construction site to nearest airport(s). <i>(If more space is required, continue on a separate sheet of paper and attach to this notice.)</i></b> Atop Mount Saint Helena, Sonoma County, California, 7.08 miles NNW of Calistoga, Napa County, California, on a bearing of 337.10°T. from Calistoga, California.			<b>C. Overall height above mean sea level (A + B)</b> 4456.9'	
<small>Notice is required by Part 77 of the Federal Aviation Regulations (14 C.F.R. Part 77) pursuant to Section 1101 of the Federal Aviation Act of 1958, as amended (49 U.S.C. 1101). Persons who knowingly and willingly violate the Notice requirements of Part 77 are subject to a fine (criminal penalty) of not more than \$500 for the first offense and not more than \$2,000 for subsequent offenses, pursuant to Section 902(a) of the Federal Aviation Act of 1958, as amended (49 U.S.C. 1472(a)).</small>				
<b>I HEREBY CERTIFY that all of the above statements made by me are true, complete, and correct to the best of my knowledge. In addition, I agree to obstruction mark and/or light the structure in accordance with established marking &amp; lighting standards if necessary.</b>				
<b>Date</b> February 24, 1992	<b>Typed Name/Title of Person Filing Notice</b> Elliott Kurt Klein, Conslt. B'cast. Engr.	<b>Signature</b> 		
<b>FOR FAA USE ONLY</b>				
<b>The Proposal:</b> <input type="checkbox"/> Does not require a notice to FAA. <input type="checkbox"/> Is not identified as an obstruction under any standard of FAR, Part 77, Subpart C,		<b>Supplemental Notice of Construction</b> FAA Form 7460-2 is required any time the project is abandoned, or <input type="checkbox"/> At least 48 hours before the start of construction. <input type="checkbox"/> Within five days after the construction reaches its greatest height. This determination expires on _____ unless:		

# **KLEIN BROADCAST ENGINEERING**

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STATE of ARIZONA     )  
CITY of SCOTTSDALE    ) ss:  
COUNTY of MARICOPA   )

Elliott Kurt Klein, being duly sworn states, that he is a consulting broadcast engineer with offices located at 5529 East Sapphire Lane, Paradise Valley, Arizona 85253. That he has been employed in the broadcast engineering profession since 1967, and that he has prepared many different reports and applications and presented them before the Federal Communications Commission, over the past twenty-five years. That his engineering qualifications are a matter of record with the Federal Communications Commission. That he has held a valid First Class Radiotelephone Operators License since 1967. That present license number is PG -11-21248, valid for life. That he is a member in good standing of The Society of Broadcast Engineers since 1969 (SBE). That he is a member in good standing of the Institute of Electrical and Electronic Engineers (IEEE). That the calculations and or measurements and exhibits in the accompanying report or application were made by him personally or under his supervision and direction, and that all facts contained herein are true of his own personal knowledge and belief, and on such facts or statements made on belief, they are believed to be true. He assumes no liability for any errors or omissions and shall not be liable for injuries and/or damages (including consequential) which might result from use of said information. All pages, engineering exhibits, and statements are covered under the copyright laws of the United States of America and remain the property of the client and Klein Broadcast Engineering. Any unauthorized use or reproduction is prohibited by law.

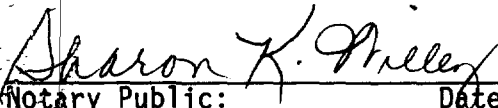


Affiant: Elliott Kurt Klein for the firm:

KLEIN BROADCAST ENGINEERING

Subscribed and sworn to before me,

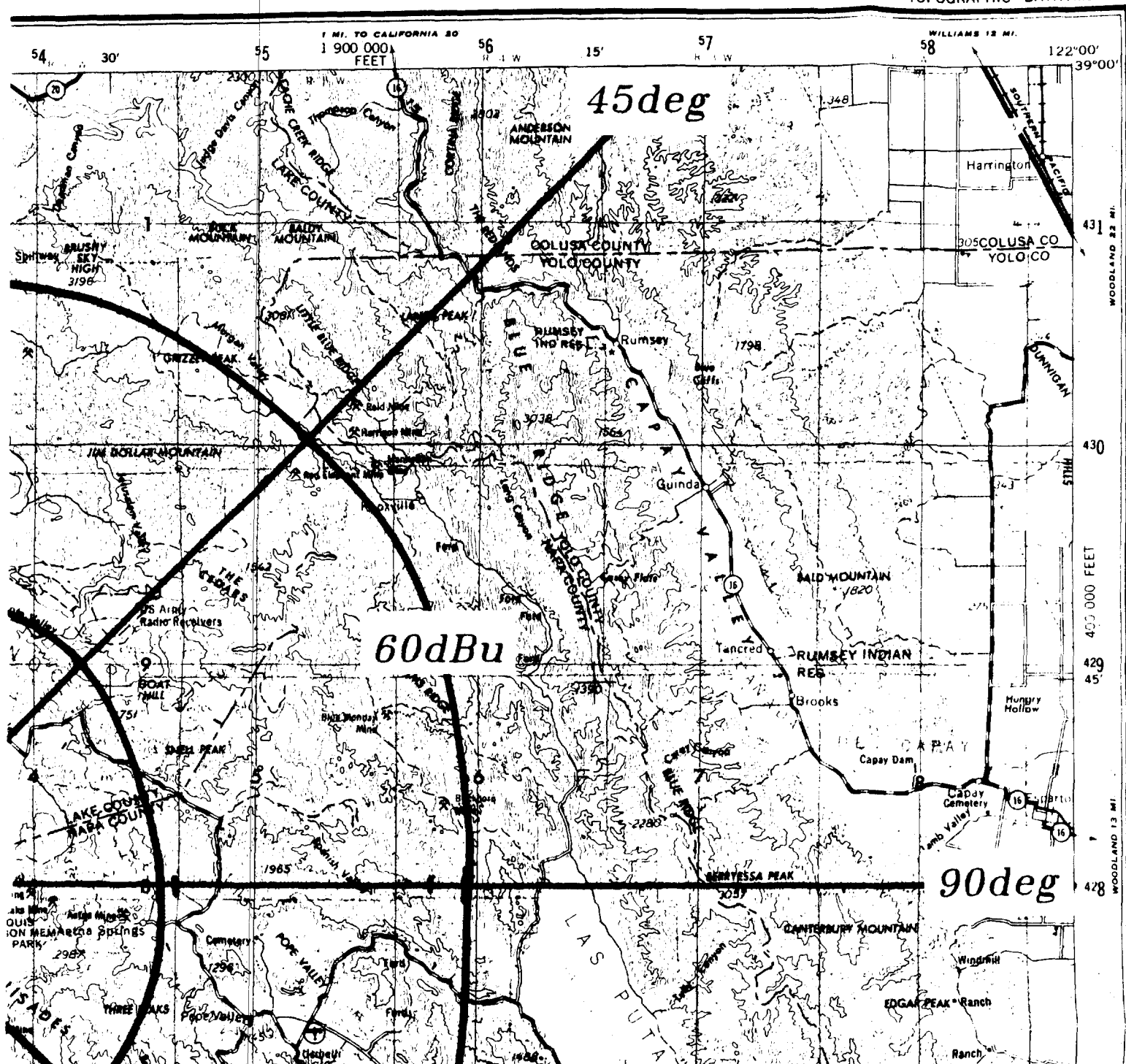
this 24th day of February 19 92



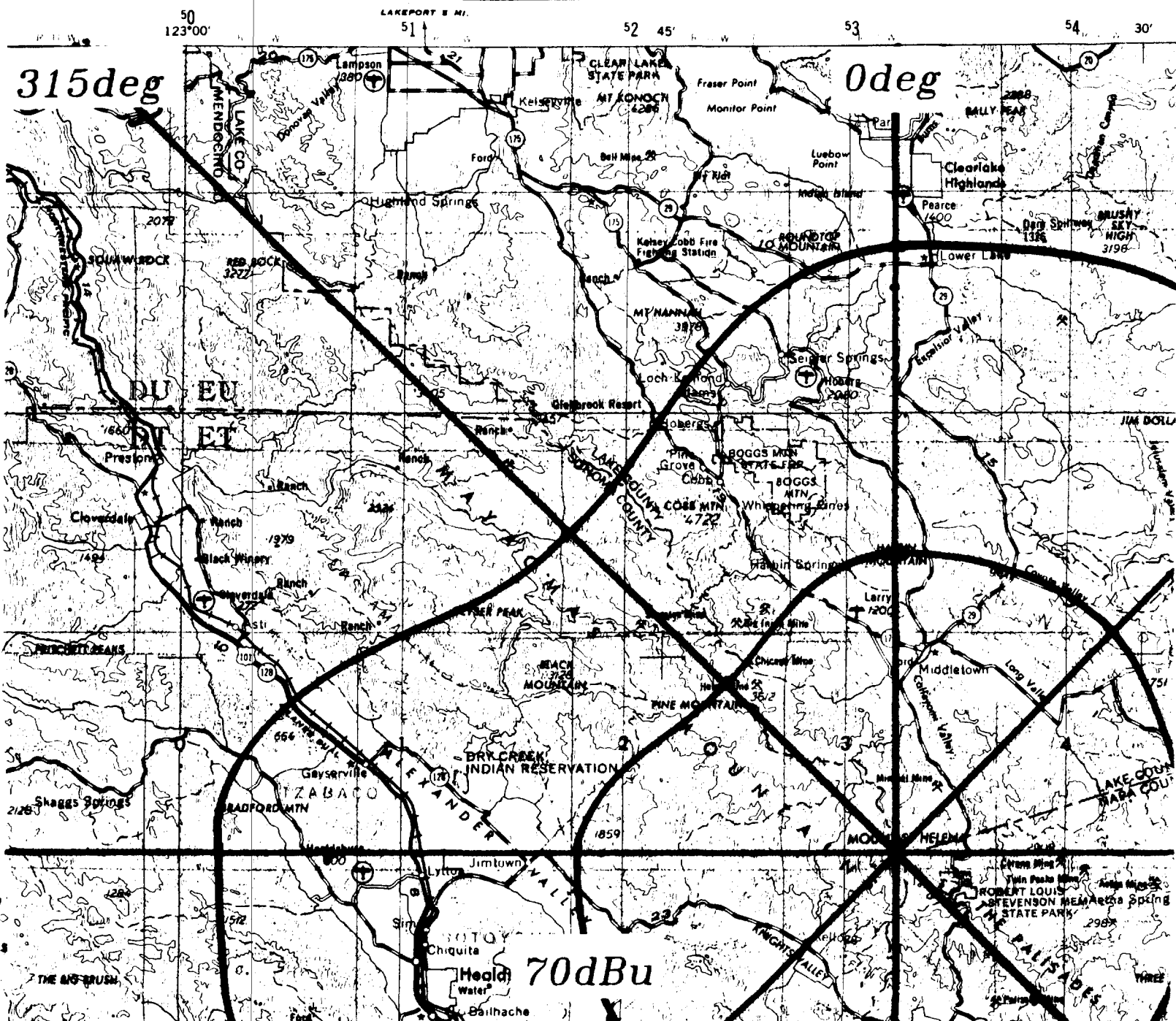
Notary Public:

7-15-95

Date of Commission Expiration:

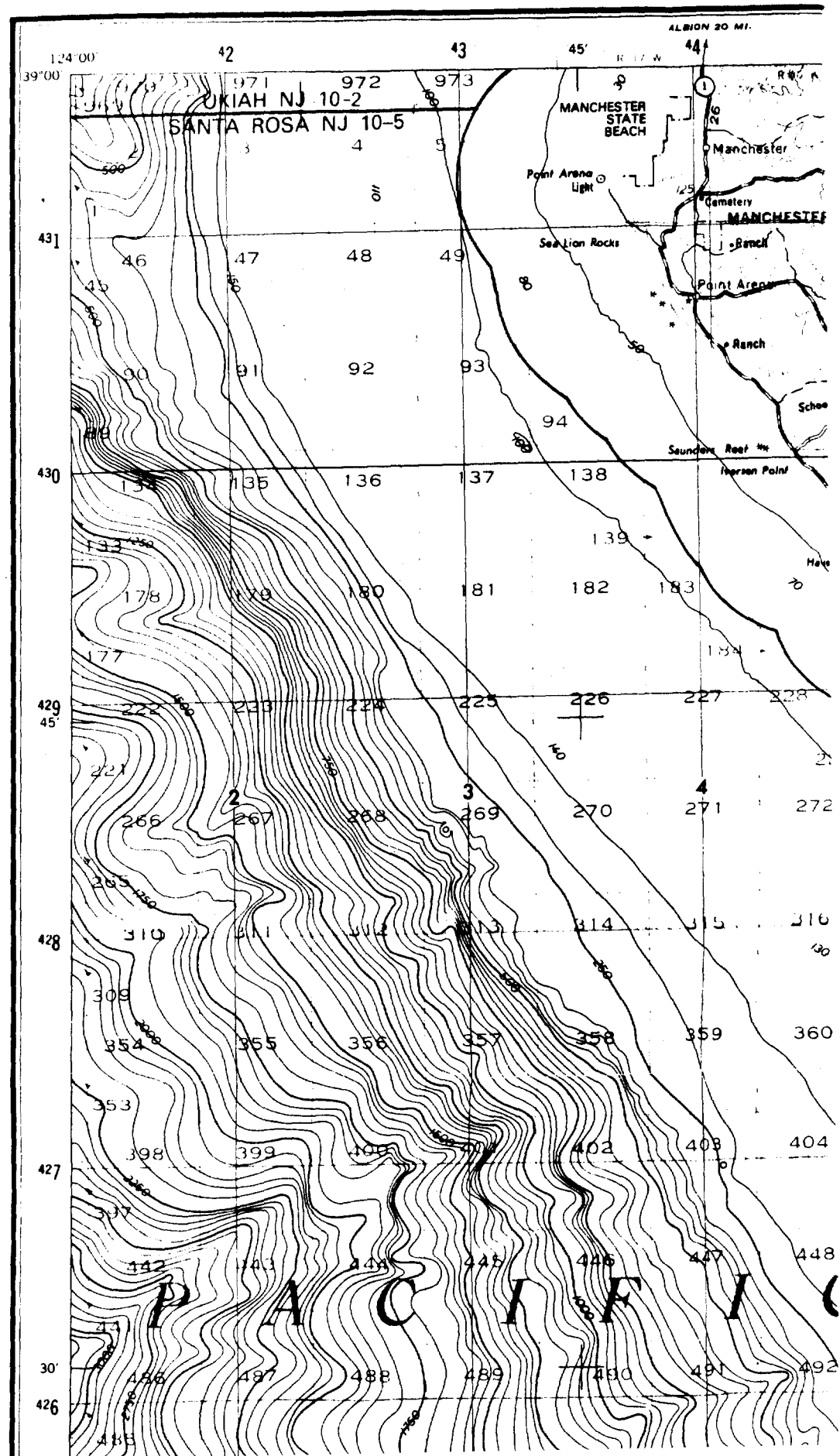


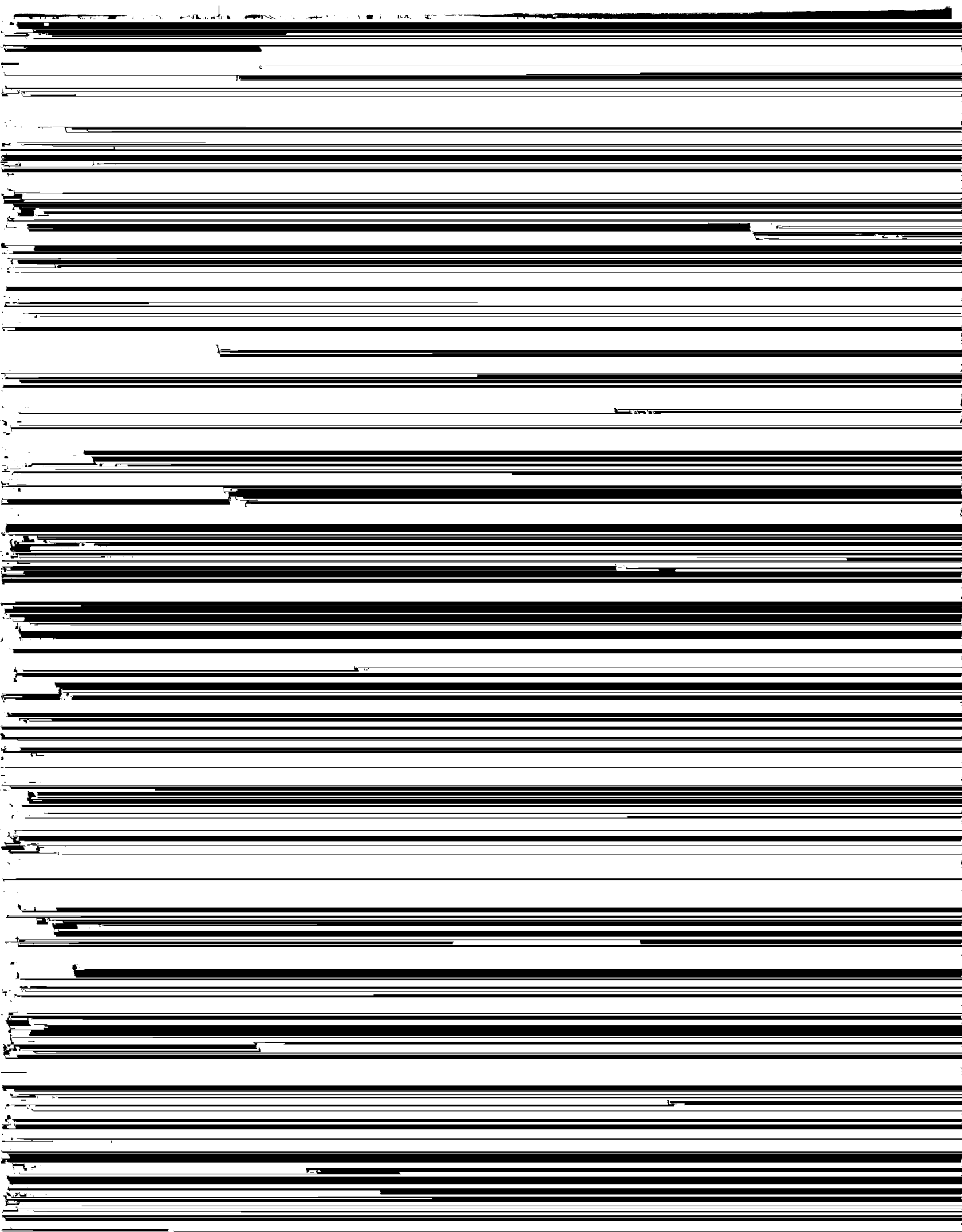
# SANTA ROSA



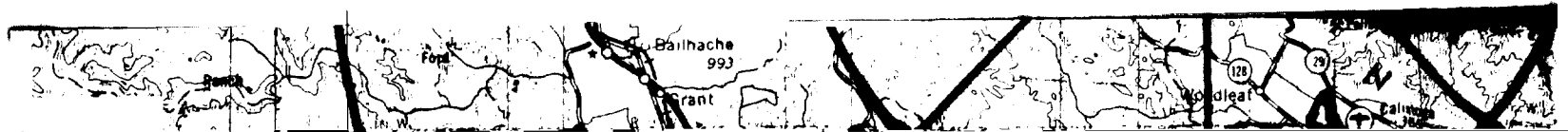
This is a detailed topographic map of the Boonville, Missouri area. The map features a grid with coordinates ranging from 45 to 49 in the horizontal direction and 30 to 31 in the vertical direction. Key geographical features include the Missouri River flowing along the top edge, several mountain peaks such as Grizzly Peak (2376), Snow Mountain (3043), and Big Root Mountain (2045), and numerous ranches and settlements. The map also shows a network of roads and a railroad line. A scale bar at the top indicates distances in miles (0 to 10) and kilometers (0 to 16). The map is titled 'BOONVILLE 1 MI.' and 'URIAN 12 MI.' at the top.

# WESTERN UNITED STATES 1:250,000





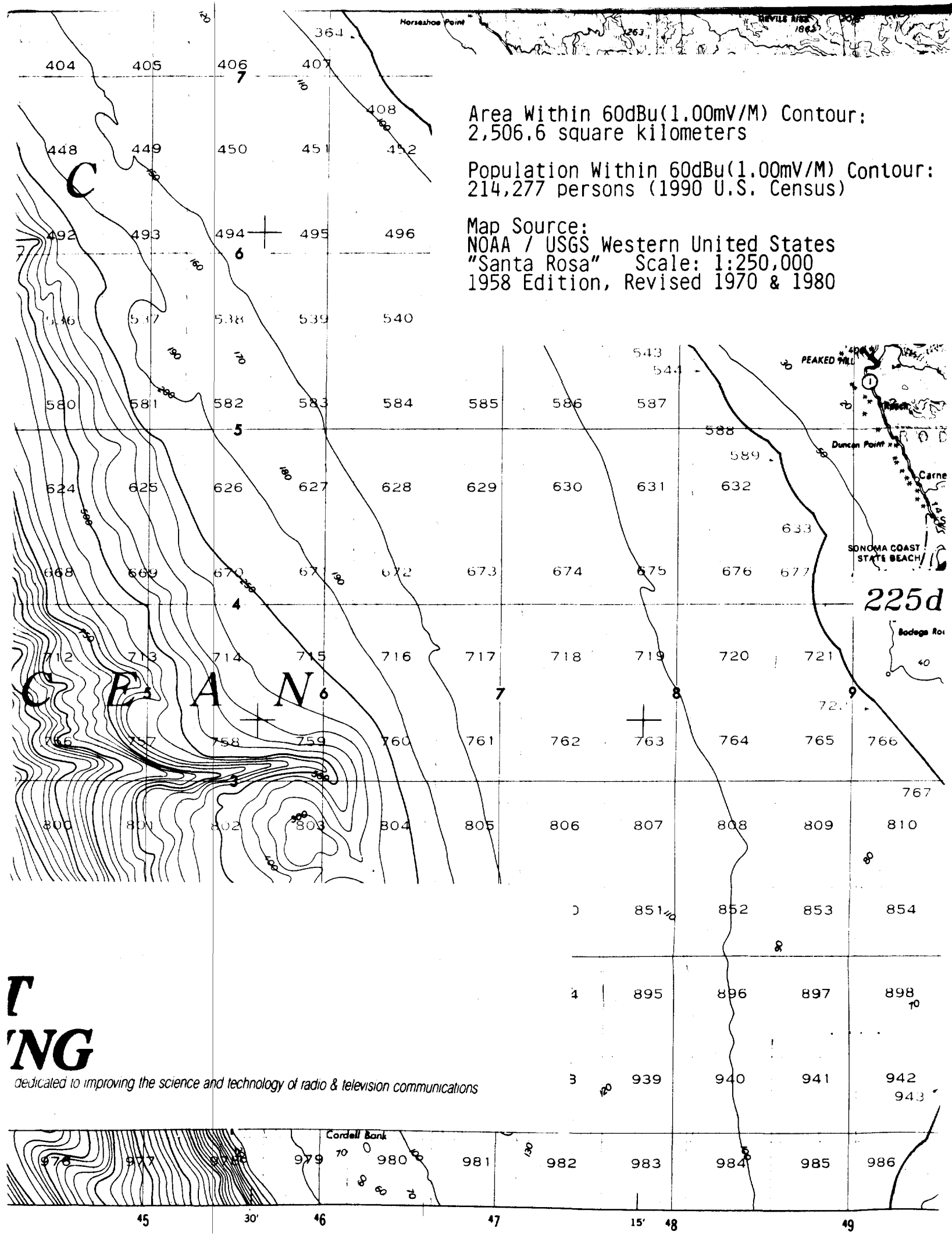




Area Within 60dBu(1.00mV/M) Contour:  
2,506.6 square kilometers

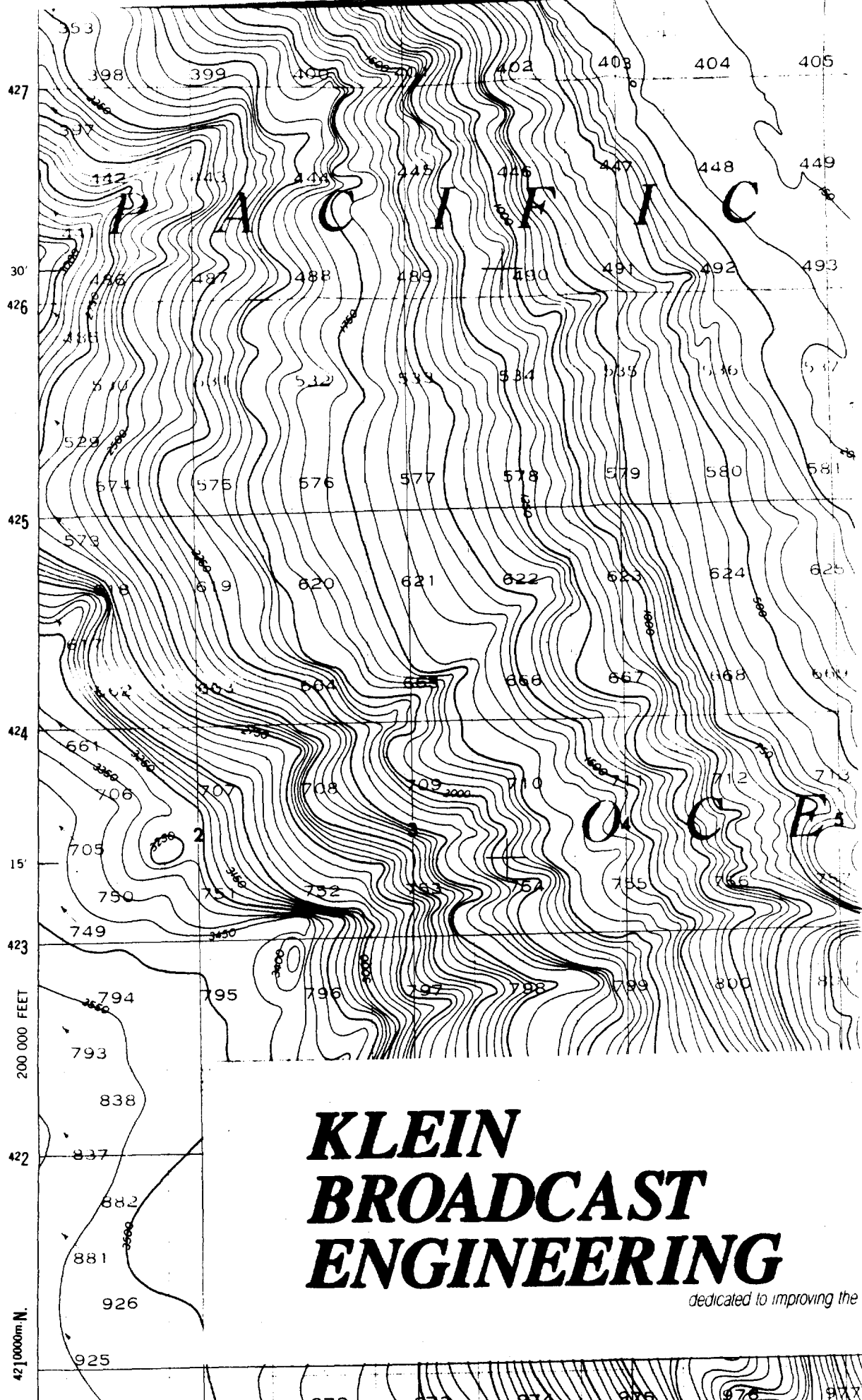
Population Within 60dBu(1.00mV/M) Contour:  
214,277 persons (1990 U.S. Census)

Map Source:  
NOAA / USGS Western United States  
"Santa Rosa" Scale: 1:250,000  
1958 Edition, Revised 1970 & 1980



**ENGINEERING**

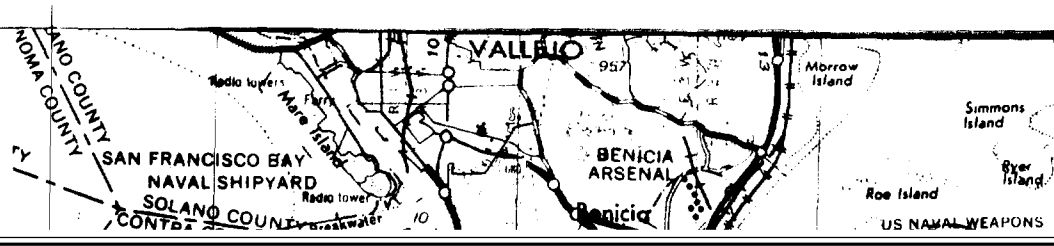
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# **KLEIN BROADCAST ENGINEERING**

*dedicated to improving the*

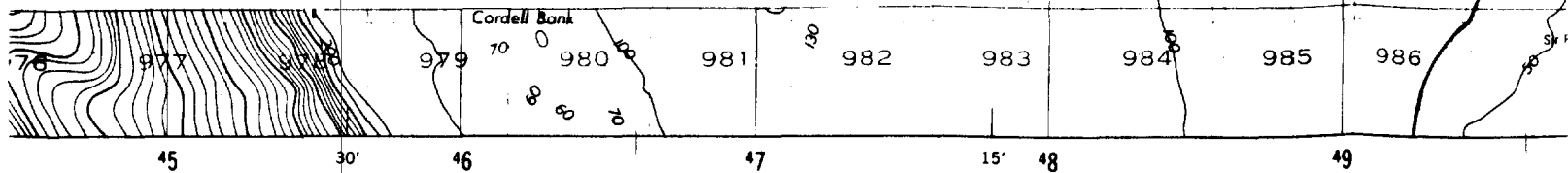
1112.





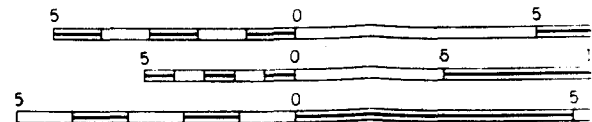
# G

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## LEGEND

- es in red denote approximate distances in miles between stars
- ROADS**
- Primary, all-weather, hard surface
  - Secondary, all-weather, hard surface
  - Light-duty, all-weather, hard or improved surface
  - Fair or dry weather, unimproved surface
  - Trail
  - Interchange
- Route markers: Interstate, U.S., State** (95) (29) (193)
- Sun Valley**
- Multiple**
- Landplane airport
  - Landing area
  - Seaplane airport
  - Orchard
  - Woods-brushwood
- Other symbols:**
- Mine
  - Power line
  - Landmark: School; Church; Other
  - Spot elevation in feet
  - Marsh or swamp
  - Approximate shoreline
  - Sounding datum line
- Uncovers**



CONTOUR  
WITH SUPPLEMENTARY  
NATIONAL GEODETIC  
BATHYMETRIC CONTOUR INTERPOLATION  
50 METER  
DATUM: MEAN SEA LEVEL  
THE RELATIONSHIP BETWEEN

MAGNETIC VARIATION FOR 1980 IS

FOR SALE BY U. S. GEOLOGICAL SURVEY,  
AND BY NATIONAL OCEANOGRAPHIC ADMINISTRATION

## SECTIONIZED TOWNSHIP

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

TOWNSHIP OR RANGE LINE

LAND GRANT BOUNDARY



MOUNT ST. HELENA QUADRANGLE  
CALIFORNIA  
7.5 MINUTE SERIES (TOPOGRAPHIC)

14611 SE  
(MIDDLETOWN)

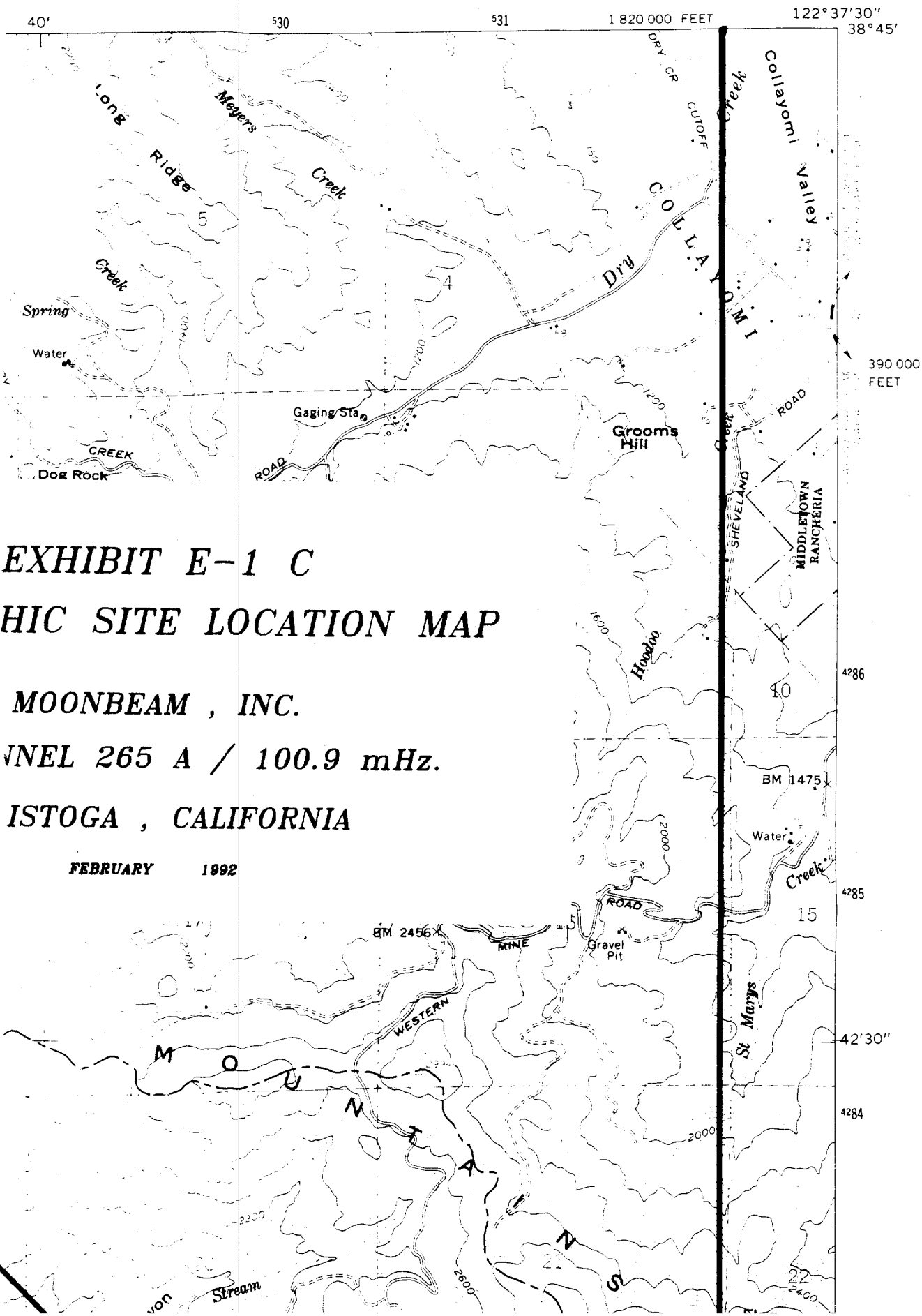


EXHIBIT E-1 C  
HIC SITE LOCATION MAP

MOONBEAM , INC.

INEL 265 A / 100.9 mHz.

ISTOGA , CALIFORNIA

FEBRUARY 1992



